

# HOW TO SPOT A BAM ISSUE

THURSDAY 03.07.24  
RON STANEVICH, PE

# WHAT IS IN THIS AMAZING PRESENTATION

WVDOH Information

Good Examples

Bad Examples

# STANDARD SPECIFICATIONS

## SECTION 106.1.4

**106.1.4-Use of Domestic Construction Materials:** Any construction materials, as defined in Section 106.1.1, shall be manufactured in the United States and compliant with the “Infrastructure Investment and Jobs Act,” Section 70901-52, entitled the “Build America, Buy America Act.” Section 70901-52, entitled the “[Build America](#), Buy America Act” as implemented by the Office of Management and Budget (OMB) in the “Preliminary Guidance

40

for Construction Materials” in OMB Memorandum M-22-11. No construction material may be used unless the manufacturing process for the manufacture of the construction material occurs in the United States.

Buy America also applies to all projects within the scope of a finding, determination, or decision under the National Environmental Policy Act (NEPA), regardless of the funding source, if at least one contract within the scope of the NEPA decision is funded with Federal funding provided under Title 23.

Buy America only applies to construction materials that are consumed in, incorporated into, or affixed to an infrastructure project. As such, it does not apply to tools, equipment, and supplies, such as temporary scaffolding, removed at or before completion of the project. Nor does Buy America apply to equipment and furnishings, such as movable chairs, desks, and portable computer equipment, that are used at or within the finished project, but are not an integral part of or permanently affixed to the structure.

When construction materials are used, the Contractor shall supply adequate documentation certifying compliance with Buy America requirements prior to the permanent incorporation of the materials into the project.

Any exceptions to Buy America requirements for domestic construction materials will be in accordance with MP 106.10.50 and shall be compliant with the [Build America](#), Buy America Act.

WEST VIRGINIA DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS  
MATERIALS CONTROL, SOILS AND TESTING DIVISION

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MATERIALS PROCEDURE

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WVDOH BUY AMERICA ACCEPTANCE GUIDELINES

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**1. PURPOSE**

- 1.1 To set forth instructions for compliance with both State and Federal Buy America Requirements (henceforth referred to as “Buy America Requirements”), as listed in Sections 2.2, 2.3 and 2.4 of this document.

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**2. REFERENCED DOCUMENTS**

- 2.1 WVDOH Standard Specifications, Current Edition.  
2.2 23 U.S.C. 313 and 23 CFR 635.410 “Buy America Requirements.”  
2.3 Chapter 5, Article 19 and Chapter 5A, Article 3, Section 56 of the West Virginia Code, entitled “West Virginia American Steel Act of 2001.”  
2.4 Build America, Buy America Act, Section 70914.  
2.5 Office of Management and Budget (OMB) Memorandum M-22-11, dated April 18, 2022.

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**3. ACCEPTANCE OF MATERIALS**

- 3.1 This procedure applies to the following:
1. Steel and Iron

MP 106.10.50

[HTTPS://TRANSPORTATION.WV.GOV/  
HIGHWAYS/MCST/MATERIAL%20PRO  
CEDURES/2023%20MPS/F-  
106.10.50-22.PDF](https://TRANSPORTATION.WV.GOV/HIGHWAYS/MCST/MATERIAL%20PROCEDURES/2023%20MPS/F-106.10.50-22.PDF)

## Buy America Certification of Compliance

Acme Construction Company  
123 Main Street  
Charleston, WV 25302

**Ship Date:** 10/31/2023

The below listed materials and products meets all the requirements of all Federal and State Laws for Buy America, including but not limited to: Chapter 5, Article 19 and Chapter 5A, Article 3 Section 56 of the West Virginia Code; 23 U.S.C. 313 Buy America, 23 CFR 635.410 Buy America Requirements, and Build America, Buy America Act, Section 70914.

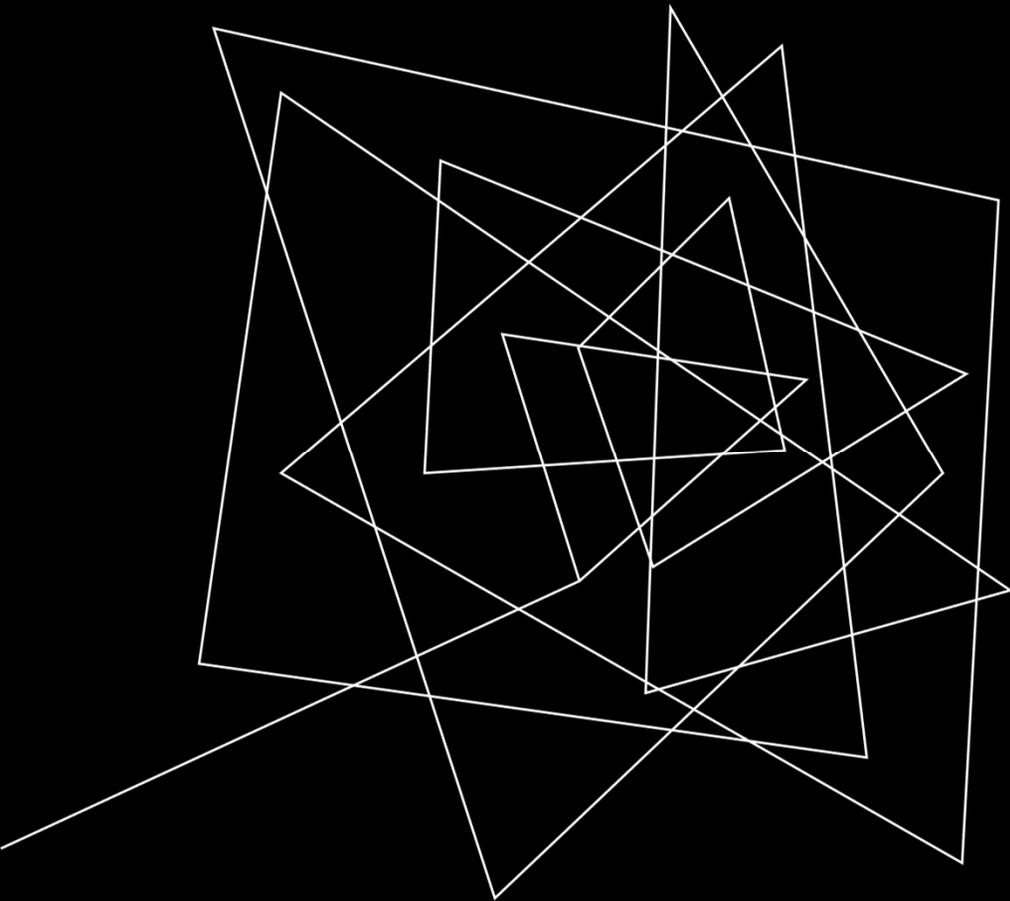
**This Certification of Compliance is for the material and project listed below:**

CID: 22000005R1  
Federal Number: B-0010(000)X  
State Number: U002-00-1.00

Line: 0020	Widget, Part Q <sup>i</sup>	500 Cubits
Line: 0025	Widget, Part H <sup>f</sup>	300 Cubits

Non-Compliant Buy America Materials		
Line: 0055	Widget, Part I <sup>z</sup>	300 Cubits

EXAMPLE  
WVDOT  
CERTIFICATE

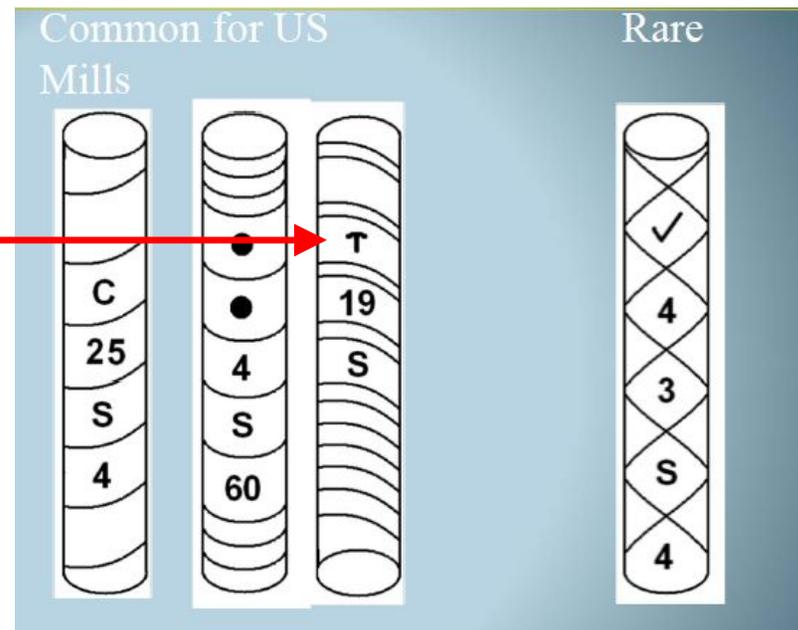


7 THINGS TO  
LOOK FOR

# NUMBER 7

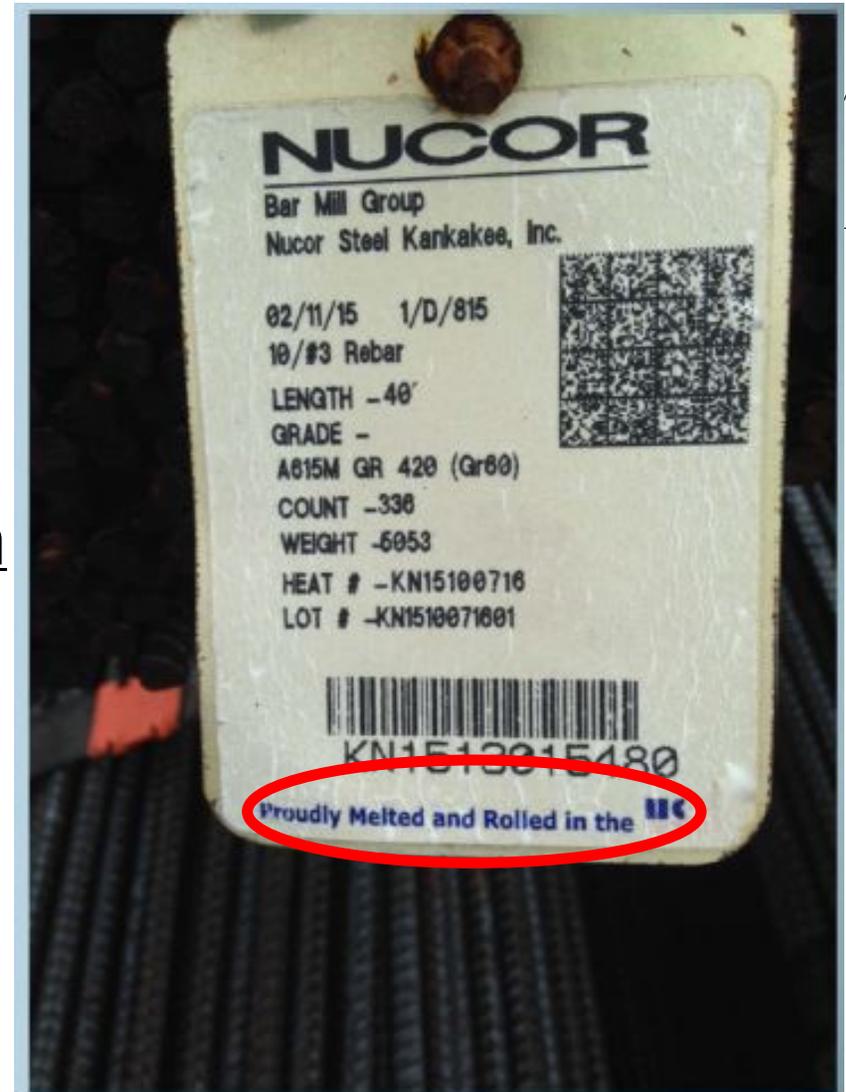
## Watch Your Steel Markings

IM 451 APP. D or Manual Standard Practice  
from the Concrete Reinforcing Steel Institute



NUMBER 6

Review The Steel Tags when  
arriving on the Project



# NUMBER 5

# Melted and Manufactured in the United States

SOLD TO: CONSTRUCTION MATERIALS INC  
345 49TH AVE DR SW  
CEDAR RAPIDS, IA 52404-4819



CERTIFIED MILL TEST REPORT Page: 1

SHIP TO: CONSTRUCTION MATERIALS  
345 49TH AVE SW  
CEDAR RAPIDS, IA 52404-4819

Ship from:  
MTR #: 0000056177  
Nucor Steel Kankakee, Inc.  
One Nucor Way  
Bourbonnais, IL 60914  
815-937-3131  
Date: 13-Feb-2015  
B.L. Number: 411545  
Load Number: 202148

Material Safety Data Sheets are available at [www.nucorbar.com](http://www.nucorbar.com) or by contacting your inside sales representative.

NSWG-08 January 1, 2012

LOT# HEAT #	DESCRIPTION	PHYSICAL TESTS					CHEMICAL TESTS												
		YIELD P.S.I.	TENSILE P.S.I.	ELONG % IN 8"	BEND	WT% DEF	C	Si	Mn	Cr	P	Mo	S	V	Al	Cu	Sn	C.E.	
PO# => KN1010332301 KN10103323	47774 Nucor Steel - Kankakee Inc 13#4 Rebar 40' A615M GR420 (Gr60) ASTM A615/A615M-14 GR 60[420] AASHTO M31-07 Melted 07/09/10 Rolled 07/15/10	70,855 487MPa	105,853 730MPa	15.0%	OK	-3.8%	.39	.99	.014	.051	.22	.42							
PO# => KN1010332501 KN10103325	47774 Nucor Steel - Kankakee Inc 13#4 Rebar 40' A615M GR420 (Gr60) ASTM A615/A615M-14 GR 60[420] AASHTO M31-07 Melted 07/09/10 Rolled 07/15/10	68,179 470MPa																	

I hereby certify that the material described herein has been manufactured in accordance with the specifications and standards listed above and that it satisfies those requirements.

- 1.) Weld repair was not performed on this material.
- 2.) Melted and Manufactured in the United States.
- 3.) Mercury, Radium, or Alpha source materials in any form have not been used in the production of this material.

I hereby certify that the material described herein has been manufactured in accordance with the specifications and standards listed above and that it satisfies those requirements.

- 1.) Weld repair was not performed on this material.
- 2.) Melted and Manufactured in the United States.
- 3.) Mercury, Radium, or Alpha source materials in any form have not been used in the production of this material.

*Matt Lyman*

QUALITY ASSURANCE: Matt Lyman

ASQ14-

11



NUMBER 4

MATERIAL CERTIFICATION OF COMPLIANCE

Gallatin, TN

CRETEX CONCRETE PRODUCTS MIDWEST INC.  
540 E COUNTRY CLUB RD  
IOWA FALLS IA 50126

Bill of Lading: 00160951  
Order Number: 420562

Insteel Wire Products Company hereby certifies that the specimens taken from production lot(s) consisting of one or more of the following Lot/serial numbers were tested in accordance with and met the specification requirements of A 416 - 12a. The attached test report(s) represent the result of such test(s).

.600 (15.2mm) 7W 270 LR ASTM A416

Test Report Number: 20050459

Lot/ 1201 The material meets the "Buy America" requirements of 23 CFR 635.410.  
1201  
1201  
1201  
1201

1201404108980  
1201404108977  
1201404108978

The products listed in this certification were manufactured and fabricated in the United States of America.

Insteel Wire Products Company hereby certifies that the prestressing strand described above meets or exceeds the minimum bonding requirements as currently accepted in the NASP (North American Strand Producers) pull-out test and the Moustaffa block pull-out test.

All Domestic Prestressing Strand was made from steel rod that was manufactured and processed completely in America. The rod was then manufactured into Prestressing Strand in the United States at Insteel Wire Products Company plant in either Anderson, FL; Houston, TX; Newnan, GA; or Gallatin, TN. The material meets the "Buy America" requirements of 23 CFR 635.410.

The products listed in this certification were manufactured in the U.S.A. from materials that were manufactured in the U.S.A.

Quality Assurance Manager: Franklin L. White

Date: 14-OCT-2014

Conforms to Buy America Requirements of 23 CFR 635.410



US-ML-ST PAUL  
1678 RED ROCK ROAD  
SAINT PAUL, MN 55119  
USA

**CERTIFIED MATERIAL TEST REPORT**

Page 1/1

CUSTOMER SHIP TO SIMCOTE INC 1645 RED ROCK RD SAINT PAUL, MN 55119 USA		CUSTOMER BILL TO SIMCOTE INC 1645 RED ROCK RD SAINT PAUL, MN 55119-6014 USA		GRADE 60 (420)	SHAPE / SIZE Rebar / #4 (13MM)
SALES ORDER 435713/000080		CUSTOMER MATERIAL N°		LENGTH 60'00"	WEIGHT 2,966 LB
CUSTOMER PURCHASE ORDER NUMBER 3564		BILL OF LADING 1333-000006416	DATE 08/06/2013	SPECIFICATION / DATE or REVISION 1-ASTM A615/A615M-09	

CHEMICAL COMPOSITION												
C %	Mn %	P %	S %	Si %	Cu %	Ni %	Cr %	Mo %	Sn %	V %	Nb %	
0.44	1.01	0.017	0.024	0.23	0.37	0.11	0.19	0.028	0.016	0.001	0.001	

MECHANICAL PROPERTIES					
YS MPa	YS MPa	UTS PSI	UTS MPa	EL inch	EL mm
69000	475	108500	748	8.000	203.2

MECHANICAL PROPERTIES	
Elong %	Reduct
10.80	OK

GEOMETRIC CHARACTERISTICS			
DefLight %	DefHgt inch	DefGap inch	DefSpace inch
-1.75	0.038	0.122	0.330

**COMMENTS**

Material 100% melted and rolled in the USA. Manufacturing processes for this steel, which may include warm melted in an electric arc furnace, hot rolling, and tempering, are performed at Gerdaul St. Paul Mill, 1678 Red Rock Rd., St. Paul, Minnesota, USA. All products produced from strand cast steel are produced at Gerdaul St. Paul Mill. No weld repairment performed. Steel not exposed to mercury or any liquid alloy which is liquid at ambient temperatures during processing or while in Gerdaul St. Paul Mill's possession. Any modifications to this certification as provided by Gerdaul - St. Paul Mill without the expressed written consent of Gerdaul St. Paul Mill negates the validity of this test report. This report shall not be reproduced except in full, without the expressed written consent of Gerdaul St. Paul Mill. Gerdaul St. Paul Mill is not responsible for the liability of this material to meet specific applications.

The above figures are certified chemical and physical test records as contained in the permanent records of company. This material, including the billets, was melted and manufactured in the USA. CMTR complies with EN 10204 3.1.

*M. Mackay*  
BHASKAR YALAMANCHILI  
QUALITY DIRECTOR

*A. Brandenburg*  
ALEX BRANDENBURG  
QUALITY ASSURANCE MGR.

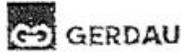
NUMBER 3

Melted and  
Rolled in the US

Material 100% melted and rolled in the USA.

**Made in the USA**

**NUMBER 2**



ST PAUL STEEL MILL  
1678 RED ROCK ROAD  
ST PAUL MN 55119 USA

**MADE IN UNITED STATES**

SHAPE + SIZE	GRADE	SPECIFICATION														SALES ORDER	CUST P.O. NUMBER									
X13MM REBAR (#4)	420 (60)	ASTM A615/A615M-10A A615/A615M-09 GR 60/420																								
HEAT I.D.	C	Mn	P	S	Si	Cu	Ni	Cr	Mo	V	Nb	N	Sn	Al	Ti	Ca	Zn	Co								
M676898	.44	1.02	.022	.027	.20	.59	.14	.18	.024	.004	.000	.0150	.020	.001	.00100	.00090	.00400	.008								
Mechanical Test:		Yield 68500 PSI, 479.19 MPA Tensile: 113000 PSI, 779.11 MPA %B: 12.5/8in, 12.5/203.2mm Bend: OK Def HT: .035, .89MM Def Gap: .132, 3.35MM Def SP: .332, 8.43MM %Wt -1.5L Red R 155.89 Idl Diam: 0 Corrosion Index: 4.5																								
Customer Requirements		SOURCE: CA-STP CASTING: STRAND CAST																								
Comment:		melted and MFG in the USA																								
		melt shop heat M122896 mol. dtd 8/30/2012, roll lot M676898 roll dtd 9/19/2012																								

**Melted and MFG in the USA**

**Repeated**

**This Material including billets was melted and manufactured in the United States of America**

This material, including the billets, was melted and manufactured in the United States of America

Bhaskar Yalamanchili  
Quality Director  
Gerdau

THE ABOVE FIGURES ARE CERTIFIED CHEMICAL AND PHYSICAL TEST RECORDS AS CONTAINED IN THE PERMANENT RECORDS OF COMPANY.

Metallurgical Services Manager  
ST PAUL STEEL MILL

Seller warrants that all material furnished shall comply with specifications subject to standard published manufacturing variations. NO OTHER WARRANTIES, EXPRESSED OR IMPLIED, ARE MADE BY THE SELLER, AND SPECIFICALLY EXCLUDED ARE WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. In no event shall seller be liable for indirect, consequential or punitive damages arising out of or related to the materials furnished by seller. Any claims for materials that do not conform to specifications must be made from buyer to seller immediately after delivery of same in order to allow the seller the opportunity to inspect the material in question.



This is to certify that the lot(s) of Scotchkote 413 Fusion Bonded Epoxy Coating manufactured by 3M at Morden, Manitoba, Canada, identified below complies (comply) with the following test requirements and is (are) chemically the same material that was tested and certified by independent test laboratories. SCOTCHKOTE 413 meets ASTM A 775/A 775M-07b, ASTM D 3963, ASTM A 884/A884M-06, ASSHTO M 284-03 and AASHTO M254-77(2000).

This is to certify the Morden, Manitoba, (are) chemically the SCOTCHKOTE 41 M 284-03 and 77(2000)

Lot Number

2J10C155

# Trouble? Not necessarily

This coating, when applied to steel or iron in the U.S., meets the Buy America provision as set forth in FHWA 23 CFR 635.410 Section 1041(a) of the ISTEA.

## Where was it coated?

3M Canada Comp

Sign

Ti

De

Shipped Fro

This coating, when FHWA 23 CFR 63

# THE NOT SO GOOD

ISO 74001:2004



## FASTENER TEST REPORT

(THIS DOCUMENT MAY ONLY BE REPRODUCED IN ITS ENTIRETY, WITH PRIOR WRITTEN APPROVAL BY THE INFASCO LABORATORY)  
(THE INFASCO LABORATORY IS ACCREDITED BY THE CCN FOR THE TESTS LISTED AT WWW.CCN.CA)

DATE 2011-10-01

DESCRIPTION AND MARKING	HEX RD CAP SCREW J429-5 FNA UNC N ZCL HOLLOW TRIANGLE & 3 RADIAL LINES		
SIZE	1/2-13 X 5	GRADE	1050Z
QUANTITY	22,000		

### HEAT CHEMICAL ANALYSIS (provided by steel supplier)

HEAT NO.	C%	Mn%	P%	S%	SI%
A.06200	0.35	0.97	0.010	0.014	0.21

METHOD	ASTM F606 PROOF LOAD (psi)	ASTM F606 WEDGE TENSILE STRENGTH (psi)	ASTM F606 SHEAR STRENGTH	ASTM E10 SURFACE HARDNESS (R100)	ASTM F606 CORE HARDNESS (ROCKWELL)	ASTM E10 MICRO HARDNESS	ASTM E370 COATING THICKNESS (0.001 in.)
BY: 0511 SPECIAL MEAS SPECIAL MEAS	85,000	120,000		54.0	HRC 25.0 HRC 34.0		0.20
B NO. 1	86,000	140,000		53.7	HRC 31.1		0.42
A NO. 2	86,000	145,000		54.0	31.8		0.42
M NO. 3	86,000	138,000		52.9	32.1		0.37
P NO. 4	86,000	142,000		53.3	30.5		0.42
L NO. 5				53.7	31.0		0.40
E NO. 6				52.4	31.7		0.43
NO. 7				50.7	31.2		0.46
NO. 8				52.8	31.1		0.46
NO. 9							0.56
NO. 10							0.43
NO. 11							0.49
NO. 12							0.46
NO. 13							0.47
NO. 14							0.35
NO. 15							0.42

THE ABOVE TESTED SAMPLES HAVE BEEN INSPECTED FOR VISUAL DISCONTINUITIES AND FOUND ACCEPTABLE.  
THEY COMPLY IN ALL RESPECTS WITH THE LATEST EDITION OF THE FOLLOWING SPECS:  
Q&E J-42, ASME B18.2.1, THREADS PER ASME B1.1 CLASS 2A UNLESS OTHERWISE SPECIFIED.

ASTM-F-194 Fe/Zn SBT

COMPLIES WITH RoHS DIRECTIVE 2002/95/EC OF THE EUROPEAN UNION  
COATING THICKNESS VALUES PROVIDED BY COATING SUPPLIER.

MANUFACTURED IN: CANADA

The steel was melted and rolled  
in North America and is mercury and asbestos-free.  
Fasteners were tested in the bare metal condition.

INFASCO  
A division of Fastgroups LP 700 Guellette, Marquette (Quabec) J5M 1P6  
A Hales Company Tel: (450) 668-0701 Fax: (450) 480-3498  
PG-012-2 Rev. 07

COMPLIES WITH RoHS DIRECTIVE 2002/95/EC OF THE  
COATING THICKNESS VALUES PROVIDED BY COATING

MANUFACTURED IN: CANADA

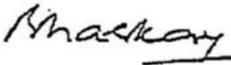
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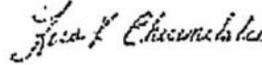
INFASCO  
A division of Fastgroups LP 700 Guellette, Marquette (Quabec) J5M 1P6  
A Hales Company Tel: (450) 668-0701 Fax: (450) 480-3498  
PG-012-2 Rev. 07

# THE NOT SO GOOD

<b>CUSTOMER PURCHASE ORDER NUMBER</b> 39555		<b>BILL OF LADING</b> 4751,000000784	<b>DATE</b> 04/26/2013								
<b>CHEMICAL COMPOSITION</b>											
C	Mn	P	S	Si	Ca	Ni	Cr	Mg	Sb	V	Cl <sub>max</sub>
0.30	0.02	0.007	0.009	0.16	0.30	0.11	0.19	0.025	0.003	0.004	0.03

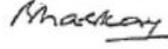
The above figures are certified chemical and physical test records as contained in the permanent records of Company. We certify that these data are correct and in compliance with specified requirements. This material, including the billets, was melted USA External, CMTR complies with EN 10204 3.1.

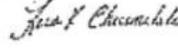

 BHASKAR YALAMANCHILI  
 QUALITY DIRECTOR


 LISA CHURNETSKI  
 QUALITY ASSURANCE MGR.

**was melted USA External.**

The above figures are certified chemical and physical test records as contained in the permanent records of Company. We certify that these data are correct and in compliance with specified requirements. This material, including the billets, was melted USA External, CMTR complies with EN 10204 3.1.


 BHASKAR YALAMANCHILI  
 QUALITY DIRECTOR


 LISA CHURNETSKI  
 QUALITY ASSURANCE MGR.

# THE NOT SO GOOD

SOLD TO: CONSTRUCTION MATERIALS INC  
345 49TH AVE DR SW  
CEDAR RAPIDS, IA 52404-4819



**CERTIFIED MILL TEST REPORT**

Page: 1

SHIP TO: CONSTRUCTION MATERIALS  
345 49TH AVE SW  
CEDAR RAPIDS, IA 52404-4819

Ship from:  
MTR #: 0000056177  
Nucor Steel Kankakee, Inc.  
One Nucor Way  
Bourbonnais, IL 60914  
815-937-3131

Date: 13-Feb-2015  
B.L. Number: 411545  
Load Number: 202148

Material Safety Data Sheets are available at [www.nucorbar.com](http://www.nucorbar.com) or by contacting your inside sales representative.

NBMG-08 January 1, 2012

LOT# HEAT #	DESCRIPTION	PHYSICAL TESTS				CHEMICAL TESTS										C.E.		
		YIELD P.S.I.	TENSILE P.S.I.	ELONG % IN 8"	BEND	WT% DEF	C	NI	Mn	Cr	P	Mo	S	V	Si		Cb	Cu
PO# => KN1010332301	47774 Nucor Steel - Kankakee Inc	70,655	105,853	15.0%	OK	-3.8%	.39	.99	.014	.051	.22	.42						
KN10103323	13/#4 Rebar 40' A615M GR420 (Gr60) ASTM A615/A615M-14 GR 60[420] AASHTO M31-07 Melted 07/09/10 Rolled 07/15/10	487MPa	730MPa			.030	.22	.14	.070	.011	.002							
PO# => KN1010332501	47774 Nucor Steel - Kankakee Inc	68,179	103,840	15.0%	OK	-3.4%	.40	.95	.020	.052	.19	.42						
KN10103325	13/#4 Rebar 40' A615M GR420 (Gr60) ASTM A615/A615M-14 GR 60[420] AASHTO M31-07 Melted 07/09/10 Rolled 07/15/10	470MPa	716MPa			.030	.23	.12	.073	.011	.002							

**INFO LEFT OFF OR INVOICE CUTOFF**



# THE NOT SO GOOD



[REDACTED]  
 NO. 46 Shin Ming Road, KAOHSIUNG TAIWAN, R.O.C.  
 TEL: 866-7-6964211 FAX: 866-7-6964210

### CERTIFICATE OF INSPECTION

PURCHASER : STAR STAINLESS SCREW CO	CERT NO. : 213311521
ADDRESS : 1001 Penner Crest	LOT NO. : 13AN222
Houston, TX 77055	INV. NO. : 2133115
United States	PO# NO. : HOU122274
COMMODITY : HEX JAM NUTS	ITEM NO. : 1-J-75C
SIZE : 3/4-10NC*1-1/8*27/64	HEAT NO. : S11186
MFR DATE : 11/15/2013	STAMP : +++
SAMPLE PLAN SPEC.:ANSI/ASMEB18.1-2007	LOT QTY : 40,000PCS
	MATERIAL TYPE: SUS 304M4

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DIMENSIONAL INSPECTIONS (MEASUREMENT BY INCH)		SPECIFICATION: ANSI B 18.2.2-1987			
Characteristics	Specification	Actual result	Smpling	Passed	Rej.
Width across flats	1.125/1.088	1.120/1.094	14	14	0
Width across corners	1.299/1.240	1.285/1.270	8	8	0
Nut thickness	0.446/0.398	0.442/0.415	8	8	0
Minor Diameter	2B	PASS	14	14	0
Thread	2B	PASS	14	14	0
Visual Appearance	ASTM F812/812M-07	PASS	46	46	0

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MECHANICAL PROPERTIES		SPECIFICATION: ASTM F594-09					
Characteristics	Test Method	Specified	Scale	Result	Sampling	Passed	Rej
Hardness	ASTM F606-09	B80 / C35	HRC	31 / 26	8	8	0

---

CHEMICAL COMPOSITION %										
HEAT NUMBER	C X100	Si X100	Mn X100	P X1000	S X1000	Ni X100	Cr X100	Mo X100	Cu X100	N X100
S11186	2.4	39.2	166	32	6.1	802.7	1826.3	20.2	50.9	252

REMARK:

*Ching Fu Yeh*  
 Name \_\_\_\_\_ Name Yi Ru Su \_\_\_\_\_ 11/15/2013 \_\_\_\_\_ 1/1  
 Name (QA Engineer) \_\_\_\_\_ SAMPLER \_\_\_\_\_ DATE \_\_\_\_\_ PAGE \_\_\_\_\_

THIS REPORT MUST NOT BE REPRODUCED EXCEPT IN FULL AND TO THE ITEM TESTED ONLY. WHENEVER TESTING DISCREPANCIES ARE DETECTED OR DEPARTURE FROM DOCUMENTED POLICIES AND PROCEDURE OCCUR, THEY WILL BE SHOWN IN REMARKS. WE HEREBY CONFIRM THAT THIS ITEM HAS BEEN PASSED. THIS INSPECTION CERTIFICATE IS ISSUED ACCORDING TO EN 10204 3.1/DIN 50049 3.1.

THE NOT  
SO GOOD

MY FAVE

1130310

 豐興鋼鐵股份有限公司  
FENG HSIN IRON & STEEL CO., LTD.

品質證明書  
(出廠證明書)  
TEST CERTIFICATE

OFFICE : 臺中縣永興鄉中后路702號  
702, CHANGHU ROAD, HOU LI SHIUNG,  
TAICHUNG ESTER, TAIWAN, ROC  
TEL : (04)25585101  
FAX : (04)25580955

客戶名稱 CUSTOMER NAME		世賜工廠產業股份有限公司				88700083		證明書編號 CERTIFICATE NO.		2AMB0471-001										
規格名稱 SPEC.		JIS G3507 SWRCH10A CN				產品名稱 PRODUCT		HOT ROLLED ROUND BAR IN COIL 熱軋棒狀棒材		生效日期 SHIPPING DATE		2011/03/18 - 2011/03/18								
										證明書列印日期 CERTIFICATE DATE		2011/03/21								
尺寸及規格 MATERIAL DESCRIP.				爐號 HEAT NO.	拉力試驗 TENSILE			化學成分(%) CHEMICAL ANALYSIS										秤量單 號 SHIPPING NO.		
直徑 DIA. (mm)	長度 LEN. (m)	數量 QTY (ROLL)	重量 WEIGHT (kg)		伸長率 /mm <sup>2</sup>	抗拉強 /mm <sup>2</sup>	伸長率 EL(%)	C	Si	Mn	P	S	As	Cr	Mo	Cu	Al		B	備註
							X100	X100	X100	X100	X100	X100	X100	X100	X100	X100	X100	X100	DATA	
19		2	3886	319808			8	18	28	38	35	20	20							
19		12	25380	319989			13	MAX	CO	MAX	MAX	MAX	MAX							
							9	7	33	9	5	4	4			8				
							9	7	33	13	7	4	4			8				
TOTAL:			14 ROLLS		27,286 kgs.															
REMARK:																				

茲茲證明本表所列產品,均依材料規格製造及試驗並符合規格之要求  
WE HEREBY CERTIFY THAT THE MATERIAL DESCRIBED HERETO HAS MANUFACTURED AND TESTED WITH

冶金工程師 盧慶光  
MANAGER





# THANK YOU

Ron Stanevich, PE

Director MCS&T Division

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